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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,799	01/11/2002	Steven Donders	14971	5613

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EXAMINER	
SCHIFFMAN, JORI	
ART UNIT	PAPER NUMBER
3679	

DATE MAILED: 05/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/030,799	DONDERS, STEVEN	
	Examiner	Art Unit	
	Jori R. Schiffman	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

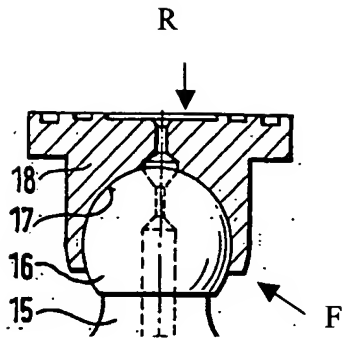
Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 20-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Wagenseil (US 5007332).

Regarding claims 20 and 23, Wagenseil discloses (Fig. 1) a ball-and-socket joint (16, 17) forming a connection between a piston 1 and a slipper 18 of a piston machine, the joint comprising a hemispherical joint recess 17 having a free recess edge, labeled as F on the Figure below, provided at one end of the piston, and a spherical joint ball 16 on the slipper being pivotably mounted in the joint recess 17. Wagenseil does not specifically disclose that the free recess edge is formed by hot-beading. However, applicant is reminded that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Therefore this limitation has not been given patentable weight.



As to claims 21, 22, 24, and 25, Wagenseil discloses the piston being made of hardened steel which is hardened through nitriding (col.4, l. 1-5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Miller et al. (US 5591293).

Regarding claims 16, 17, and 19, by use of a Jepson claim, applicant admits the steps of configuring the slipper with a joint ball at an end opposite a bottom surface, configuring the piston at an oversized dimension on a lateral surface and with a hemispherical joint recess having a free recess edge protruding beyond the maximum diameter of the joint recess at one end of the piston, and finishing the lateral surface of the piston are prior art. The admitted prior art fails to disclose the steps of locally heating and hot-beading the free recess edge.

Miller teaches hot-beading as a well-known method of sealing. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to use the hot beading method to seal the free recess edge to ensure the free recess edge stays connected to the joint ball. As to claim 19, once the combination is made, the free recess edge would be hot-beaded into a conical form converging toward the free edge.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Miller et al. (US 5591293) as applied to claim 16 above, and further in view of Wagenseil (US 5007332).

As to claim 18, the modified prior art fails to disclose the lateral surface of the piston being nitrided, hardened, or gas-nitrided. Wagenseil teaches the lateral surface of the piston being nitrided (col. 4, l. 1-5) before finishing. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to nitride the piston before finishing so the piston is hardened and less likely to decay.

6. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagenseil (US 5007332).

Referring to claims 26 and 27, Wagenseil discloses the claimed joint except for the slipper being formed of steel. Applicant is reminded that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). It would have been obvious at the time the invention was made to a person of ordinary skill in the art to construct the slipper of

Wagenseil of steel since it is a well-known material used in ball-and-socket joints including pistons and slippers.

7. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagenseil (US 5007332) as applied to claims 23, 26, and 27 above, and further in view of Wiethoff (US 3828654).

Regarding claim 28, Wagenseil discloses the claimed joint including a base surface on the slipper with a recess, labeled as R on the Figure above, but fails to disclose the slipper including a base surface with a plate-shaped insert being mounted in the recess. Wiethoff teaches a plate shaped insert 132 mounted in the recess of the base member of the slipper. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to include a plate shaped insert mounted in the recess of the base member of the slipper so the slipper can slide more easily.

As to claim 29, Wiethoff fails to disclose the material from which the plate shaped insert is made. Applicant is reminded that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). It would have been obvious at the time the invention was made to a person of ordinary skill in the art to construct the insert of either bronze or brass since it is a well-known material in the art.

Response to Arguments

8. Applicant argues that Wagenseil fails to disclose or suggest the method of hot-beading of the joint recess. Again, applicant is reminded that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Therefore this limitation has not been given patentable weight since the structure of the claim is disclosed by Wagenseil.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Referring to another hot-beading process: U.S. Pat. No. 5360840 to Chan et al.

Showing the interchangeability of the arrangement of the slipper, ball, and piston: U.S. Pat No. 6318241 to Stoppek et al. (See Figs. 1 and 2)

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jori R. Schiffman whose telephone number is 703-305-4805. The examiner can normally be reached on M-Th, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on 703-308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-3179.

Jori R. Schiffman
Examiner
Art Unit 3679

JS
April 28, 2003

Lynne H. Browne
Supervisory Patent Examiner
Technology Center 3679